इंटरनेट मानक

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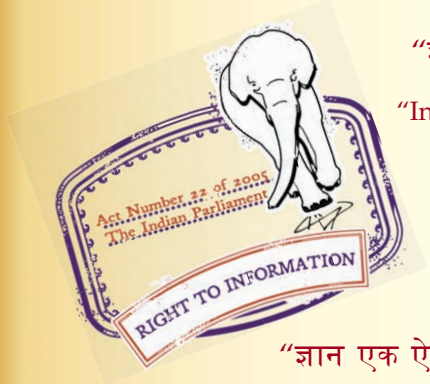
"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 3997 (1982): Jars, Ointment [MHD 14: Hospital Planning]



"ज्ञान से एक नये भारत का निर्माण"
Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"

"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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UDC 615·014·83 : [615·454·1]

(First Reprint MAY 1999)

(Reaffirmed 2006)

Indian Standard

SPECIFICATION FOR JARS, OINTMENT

(First Revision)

Utensils Sectional Committee, CPDC 5; Hospital Utensils Subcommittee, CPDC 5 : 4 [Ref : Doc : CPDC 5 (1425)]

1. Scope — Covers the requirements of stainless steel, enamelled iron, glass and porcelain ointment jars.

2. Terminology — For the purpose of this standard the definitions given in IS : 1382-1961 'Glossary of terms relating to glass industry', IS : 2717-1964 'Glossary of terms used in vitreous enamelware industry', and IS : 2781-1975 'Glossary of terms relating to ceramic ware (*first revision*) ' shall apply.

3. Material

3.1 *Stainless Steel* — Stainless steel shall conform to designation X04Cr18Ni11 or X07Cr18Ni9 of IS : 5522-1978 ' Specification for stainless steel sheets and coils '.

3.2 *Enamelled Iron* — The base metal shall conform to IS : 513-1973 ' Specification for cold rolled carbon steel sheets (*second revision*) ' and the coating shall comprise inorganic vitreous enamel fused to the surface of the base metal.

3.3 *Glass* — The glass used shall be colourless, corrosion resistant, well annealed and free from striae, strain and other defects. It shall also conform to Type 1 of IS : 2303-1963 ' Method for grading glass for alkalinity '.

3.4 *Porcelain* — Unless otherwise specified, the porcelain shall be white in colour, covered with a glaze properly matured and fitted to the body. The body upon fracture shall appear fine-grained in texture, dense and homogeneous.

4. Shapes and Dimensions

4.1 *Shapes* — The shape of ointment jars shall generally conform to Fig. 1 or 2.

4.2 *Dimensions* — The dimensions of ointment jars shall be as given in **4.2.1** read with Fig. 1 or 2 for all jars, subject to the following:

Dimensions	*Tolerance*
mm	mm
Up to 50	± 1
51 to 100	± 2
101 ,, 200	± 3
201 and above	± 5

4.2.1 The nominal capacities of jars shall be 50 corresponding to those in Fig. 2 for porcelain jars, 100, 200 corresponding to those in Fig. 1 for other jars, or 500 ml with the thicknesses given below :

Material	*Thickness, Min*
	mm
Stainless steel	0·45
Enamelled iron (base metal)	0·40
Glass (at any point)	2·00
Porcelain (at any point)	2·00

Adopted 11 February 1982

BUREAU OF INDIAN STANDARDS
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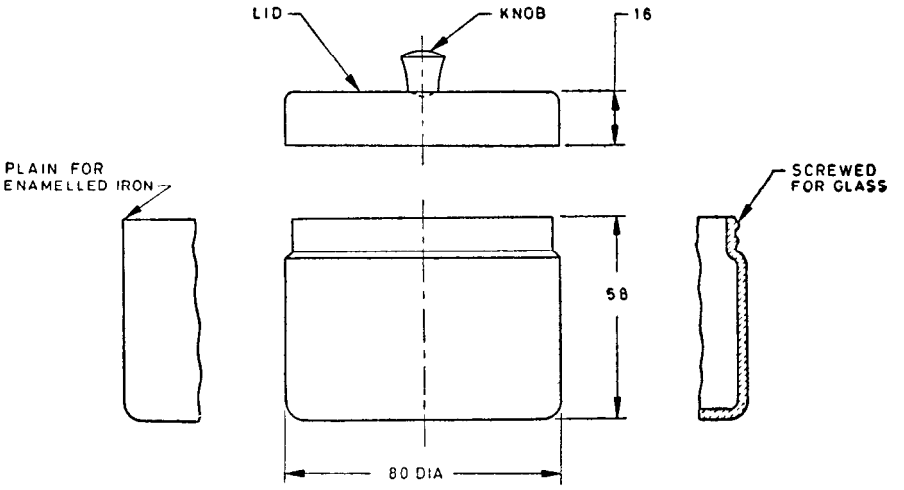
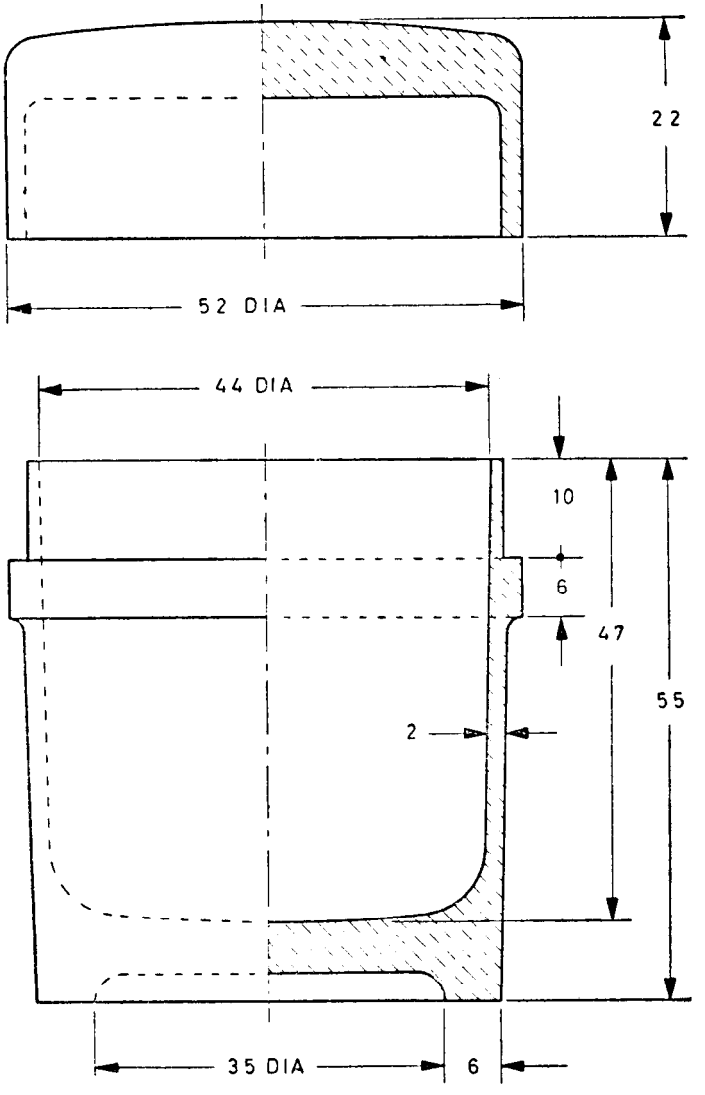


All dimensions in millimetres.

FIG. 1 OINTMENT JAR, STAINLESS STEEL, ENAMELLED IRON AND GLASS



All dimensions in millimetres.

FIG. 2 OINTMENT JAR, PORCELAIN

4.2.2 The enamelled iron jars may have two or three coats of enamel and the final thickness of enamel shall be between 0·12 and 0·38 mm.

4.3 A deviation of maximum 15 percent shall be permitted for negative tolerance on sheet thickness and the reduction in the drawing due to forming process.

5. Workmanship and Finish

5.0 In general, the jars shall be so constructed that these shall not rock when placed on a level surface. The knob on the lid shall be of a size convenient for handling. It shall be securely riveted in position in case of stainless steel and enamelled iron jars and the rivet head on the inside of the lid of stainless steel jar shall not have any crevice where dirt may harbour.

5.1 *Stainless Steel Jars* — The jars shall be polished bright. These shall also be free from sharp or open edges, distortion, dents, wrinkles, wavy surface, burrs, scratches and pittings.

5.2 *Enamelled Iron Jars* — Vitreous enamel shall be applied in such a way that ground and cover coats shall be fairly uniform in thickness. Unless otherwise specified, the enamel shall have white colour with blue rim. The finished enamelware shall have a glossy finish and shall be free from blisters, crazing, cracks, chippings, pin-holes, discolouration, and other imperfections which affect the appearance or may impair the serviceability.

5.3 *Glass Jars* — These shall have a flame polished and well formed rim and shall be free from chipping and discolouration.

5.4 *Porcelain Jars* — These shall have a well formed glazed rim and shall be free from crazing, cracks, chippings, pin-holes and discolouration.

6. Tests

6.1 *Enamelled Iron Jars* — These shall satisfy the test requirements covered in IS : 3972-1968 ' Method of test for vitreous enamelware '.

6.1.1 *Citric acid spot test* — When subjected to test in accordance with IS : 3972-1968, it shall pass the requirements for Class AA.

6.2 *Glass Jars* — These shall satisfy the requirements given in **6.2.1.**

6.2.1 *Boiling and thermal shock* — When tested in accordance with Appendix A, the jars shall not show any corrosion, chipping or cracking.

6.3 *Porcelain Jars* — These shall satisfy the test requirements given in **6.3.1** to **6.3.3.**

6.3.1 *Glazing* — All surfaces of the ware shall be glazed. Surface or points where the pots are supported in the kiln may be unglazed, but these unglazed surfaces shall be finished smooth. The glaze shall be even, free from craze, pin-holes, spit-outs, patches and stains.

6.3.2 *Crazing* — When tested as prescribed in Appendix B, the jars shall show no crazing after undergoing three cycles of test.

6.3.3 *Water absorption* — The water absorption of the material shall be not more than 1·0 percent, when tested in accordance with Appendix C.

7. Marking — Each ointment jar shall be suitably marked at the bottom with the manufacturer's name, registered trade-mark or identification mark and its size.

7.1 *Certification Marking* — Details available with the Bureau of Indian Standards.

8. Packing — The ointment jars shall be wrapped in soft tissue paper and packed in accordance with the instructions of the purchaser.

APPENDIX A

(*Clause* 6.2.1)

BOILING AND THERMAL SHOCK TEST

A-1. Procedure — The jars shall be completely immersed in distilled water in a closed vessel with a steam vent, in such a way that they do not touch the walls of the vessel. These shall be boiled for 6 hours taking care that level of water is maintained approximately at the same place by adding more water every now and then. After the completion of the period the jars shall not show any signs of chipping, corrosion, cracking and crazing.

A-1.1 Thereafter, the jars shall be transferred into a container having tap water at 27 ± 2°C and kept for 10 minutes and again to boiling water for 10 minutes. This cycle of dipping in boiling water and tap water shall be repeated five times and after completion of the test the jars shall not show any signs of corrosion, chipping, cracking and crazing.

APPENDIX B

(*Clause* 6.3.2)

CRAZING TEST

B-0. Principle — The articles shall be exposed to 7·0 kg/cm² of saturated steam for one hour and then cooled slowly to room temperature. The glaze shall be tested for crazing after three such cycles.

B-1. Procedure — Fresh, whole articles shall be placed in a suitable pressure vessel and subjected to constant pressure of 7·0 ± 0·2 kg/cm² in saturated steam. A period of 30 minutes shall be allowed for raising the steam pressure. The articles shall be kept under pressure for one hour, after which the pressure shall be released by opening of blow valve. Thereafter the articles shall be allowed to cool to room temperature in the pressure vessel and examined for cracking or crazing by applying a dye solution to the surface. The test pieces shall be subjected to three cycles of the test and observed for crazing or cracking.

APPENDIX C

(*Clause* 6 3.3)

WATER ABSORPTION TEST

C-0. Principle — The amount of water absorbed by article shall be determined by boiling the article in distilled water and finding the increase in weight.

C-1. Test Pieces — Five pieces from whole article shall be cut or obtained by breaking. The two surfaces of test pieces shall be glazed and the other surfaces shall be unglazed and freshly broken.

C-2. Procedure — The test pieces shall be cleaned with distilled water and dried to a constant weight at a temperature between 110° and 115°C and then cooled to room temperature in a desiccator. These shall be weighed to an accuracy of 0·01 g immersed in distilled water in a beaker and boiled for two hours. A few glass beads may be used in such a way that these test pieces do not touch the bottom of the beaker. After boiling, the pieces shall be allowed to remain in water for 20 hours and cooled to room temperature. These shall then be taken out and wiped carefully with a soft damp cloth to remove any excess moisture adhering to the surfaces and then weighed.

C-2.1 Water absorption of the test pieces shall be calculated as follows:

$$\text{Percentage water absorption} = \frac{W_2 - W_1}{W_1} \times 100$$

where

W_2 = weight of the test pieces after boiling with water, and

W_1 = weight of the dry pieces.

C-2.2 Average of five test pieces shall be reported.

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AMENDMENT NO. 1 JANUARY 1996
TO
IS 3997 : 1982 SPECIFICATION FOR JARS, OINTMENT

(First Revision)

(*Page* 1, *clause* **2**) — Substitute 'IS 1382 : 1981 Glossary of terms relating to glass and glassware (*first revision*)' *for* 'IS 1382 : 1961 Glossary of terms relating to glass industry' and 'IS 2717 : 1979 Glossary of terms relating to vitreous enamelware and ceramic-metal systems (*first revision*)' *for* 'IS 2717 : 1964 Glossary of terms used in vitreous enamelware industry'.

(*Page* 1, *clause* **3.1**) — Substitute 'IS 5522 : 1992 Stainless steel sheets and strips for utensils (*second revision*)' *for* 'IS 5522 : 1978 Specification for stainless steel sheets and coils'.

(*Page* 1, *clause* **3.2**) — Substitute 'IS 513 : 1986 Cold-rolled low carbon steel sheets and strips (*third revision*)' *for* 'IS 513 : 1973 Specification for cold rolled carbon steel sheets (*second revision*)'.

(*Page* 3, *clauses* **6.1** *and* **6.1.1**) — Substitute 'IS 3972 (Part 2/Sec 1) : 1985 Methods of test for vitreous enamelware : Part 2 Test methods, Section 1 Resistance to citric acid at room temperature and boiling temperature (*first revision*)' *for* 'IS 3972 : 1968 Methods of test for vitreous enamelware'.

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